European Journal of Special Education Research
ISSN: 2501 - 2428
ISSN-L: 2501 - 2428
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.3580688 Volume 5 | Issue 2 | 2019

TEACHING CONVERSATIONAL SKILLS TO A GROUP OF SEVEN INDIVIDUALS WITH A SEVERE OR MODERATE INTELLECTUAL DISABILITY OR AUTISM SPECTRUM DISORDER: AN INTERVENTION PROGRAM

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Abstract:
Few studies have been conducted in Greece focusing on the education of conversational skills of individuals with developmental disabilities. The aim of this qualitative research was to educate seven individuals with developmental disabilities, who are living in an intensive treatment residential facility, in social exchanges and particularly in conversational skills. The participants were formed into a group and were given images to discuss among themselves using questions and answers. The results of the study showed that all participants who started from a zero level gained the ability to participate in conversation according to their potential. The training content and the structure provided for this intervention increased the number of exchanges and afforded the opportunity and the means to socialize. In conclusion, as a result of this intervention, it turns out that people with developmental disabilities clearly demonstrated that they are able to learn conversational skills in a group setting.

Keywords: teaching social skills, group teaching, conversational skills, developmental disabilities, intervention program

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1. Introduction

1.1 Social Skills

Social skills are specific and recognizable skills that contribute to developing a socially competent behavior (Hops, 1983), and allow the individual to engage in social interactions and relationships (Cook, Gresham, Barreras, Thornton, & Crews, 2008, as cited in Little, Swangler & Akin-Little, 2017) that are necessary for healthy emotional functioning and psychological adjustment (Guralnick, 1986). Of course, there is no consensus on the definition of social skills (Wilkins & Matson, 2007). The difficulty in finding an acceptable common definition is due both to the complexity of the term, which includes complex psychological and intra-individual processes, and to the fact that the term has been examined in the context of different disciplines, resulting in various different approaches (Merrell & Gimpel, 1998).

However, there is consensus on the relationship between social skills and successful social interactions, as well as the ability to build and maintain positive social relationships. This means that social skills are those skills that enable individuals to function competently at social tasks (Cook et al., 2008, as cited in Little et al., 2017). Socially competent people use social interactions to meet their goals and needs, taking into account the needs and goals of others (Groeben, Perren, Stadelmann, & Klitzing, 2011). This definition makes a differentiation between social skills that are important for the individuals themselves and those that are oriented towards others. Malti and Perren (2016, as cited in Garrote, 2017) describe these two dimensions of social skills as self-oriented (e.g., initiating and maintaining social interactions, leadership skills, ability to set boundaries in peer relationships) because they aim at satisfying one's personal needs, and as other-oriented (e.g., helping, caring and cooperating) because they take into account the social interactions, interests and benefit of other people.

Although many of these definitions have not been introduced specifically for individuals with developmental disabilities, they can be used for all populations. Christoff and Kelly (1983) define social competence in terms of effectiveness. In the analysis of Wilkins and Matson (2007), self-handling, discussion, claiming, solving social problems, professional and interpersonal skills are included as social skills. According to Gresham, Sugai and Horner (2001, as cited in Soulis, Fotiadou, & Xristodoulou, 2014), social skills are divided into (a) peer-related skills, (b) self-management skills, (c) cognitive skills, (d) social compliance skills and (e) skills for asserting one's rights. According to Weiner (2004), social skills can be divided into the following categories: (a) social-cognitive skills; (b) communication skills; (c) prosocial behavior and (d) emotional adjustment skills.

Social skills appear to be inseparably linked to the quality of life. The difficulty in establishing relationships and the absence of social contacts (Soulis & Floridis, 2006) impede the life of the individual. Lack of social skills leads to limited interpersonal relationships and social acceptance, and difficulties in academic and professional

development (Chadsey-Rusch, Drasgow, Reinoehl, Halle, & Collet-Klingenberg, 1993; Nota & Soresi, 1997). Special education scholars believe that teaching social skills to individuals with disabilities is the only way forward, as they increasingly realize that social skills are connected to the independent living (Breen, Haring, Pitts-Conway, & Gaylord-Ross, 1985; Pappa, 2008).

1.2 Social Skills and Individuals with Developmental Disabilities

Based on international literature, social skills deficits, that are the inability to learn different social skills or to use previously acquired social skills in appropriate situations, are common among individuals with Intellectual Disabilities (ID) (McCoy & Hermansen, 2007). Usually individuals with ID exhibit undesirable forms of behavior when interacting with others (Gottlieb, Semmel, & Veldman, 1978). The undesirable forms of behavior may be due to the fact that they have limited social judgment, find it hard to understand what others think and, thus, have difficulty coping successfully with different social situations (Greenspan & Shoultz, 1981). An additional problem is the lack of motivation. Individuals with ID are not motivated to engage in social activities (Papoutsaki, 2009). Furthermore, they show a lack of social confidence (Guralnick, 1999). Sometimes they become isolated, as it is difficult for them to participate in activities that require social and verbal interaction (Barmpas, 2008; Strogilos, 2011).

Social skills deficits -a key feature of Autism Spectrum Disorder (ASD)- affect the ability of individuals to participate in and integrate into society (Hendricks & Wehman, 2009). Poor social skills and low social intelligence are often associated with poorer quality of life (Howlin, Goode, Hutton, & Rutter, 2004; Marriage, Wolverton, & Marriage, 2009). Adults with ASD and ID experience greater social difficulty than those with ID only (Matson, Mayville, Lott, Bielecki, & Logan, 2003; Njardvik, Matson, & Cherry, 1999). There are extremely few interventions available that focus on improving social interaction skills in adolescents and adults with ASD who also have severe ID (Ingersoll, Walton, Carlsen, & Hamlin, 2013). Individuals with ASD and ID have few positive verbal and non-verbal social skills (i.e., smiling) and more challenging non-verbal social behaviors (i.e., self-isolation) (Walton & Ingersoll, 2013). A study conducted by Syriopoulou-Delli, Agaliotis and Papaefstathiou (2016) showed that there are major differences between children with ASD and ID, and children without ID. Likewise, verbal children received higher scores compared to non-verbal children. Higher scores showed better social skills. In addition, the vast majority of adults with autism and ID who live in residential facilities also exhibit self-stimulatory behaviors, which significantly impede their social interactions (Pilling, McGill, & Cooper, 2007).

1.3 Communication Skills

According to Schuchardt, Maehler and Hasselhorn (2011) and Sparrow, Balla and Cicchetti (1984) communication skills are often divided into the following subcategories: expressive communication, receptive communication and written communication.

Expressive communication involves the ability to communicate one's needs to other people, while receptive communication is the ability to understand and respond to others' communication. Both expressive and receptive communications include verbal and non-verbal behaviors (van der Schuit Segers, van Balkom, & Verhoeven 2011a; 2011b; Verhoeven, Steenge, van Weerdenburg, & van Balkom, 2011). Written communication often incorporates both expressive and receptive communication, but requires reading and writing skills.

These communication sub-categories have been examined separately in typically developing populations and in individuals with ID and other developmental disabilities (Cappadocia & Weiss, 2011; Davis et al., 2011; Dixon, Tarbox, Najdowski, Wilke, & Granpeesheh, 2011; Wainer & Ingersoll, 2011).

1.4 Conversational Skills

Communication skills include conversational skills, starting and ending a conversation in an appropriate manner, actively participating in a conversation, communicating verbally and non-verbally and carefully following a conversation. Conversational skills refer to the ability of the individual to start and maintain a conversation with other people (Kelly, 1982). They consist of conversation questions, personal statements, emphasizing and acknowledging comments, lengthy and delayed exchanges, eye contact, emotion and tone, and the content of the conversation (Bradlyn, Himadi, Crimmins, Christoff, Graves, & Kelly, 1983; Kelly, 1982; Kelly, Furman, Phillips, Hathorn, & Wilson, 1979; Kelly, Wildman, Urey, & Thurman, 1979; Minkin et al., 1976; Stalonas & Johnson, 1979; Urey, Laughlin, & Kelly, 1979; Wildman, Wildman, & Kelly, 1986).

According to Barnett (1987), the transmission of meaning from person to person requires a social exchange framework. These exchanges start very early in the child's life. According to Wilkins and Matson (2007), conversation questions are any questions that the interlocutor makes with the aim to elicit information from the other person. Effective communication requires asking and answering conversation questions.

1.5 Conversational Skills in Individuals with Developmental Disabilities

Unfortunately, communication is particularly affected in people with ID (Kurtz, Boetler, Jarmolowicz, Chin, & Hagopian, 2011; Matson, Horovitz, Kozlowski, Sipes, Worley, & Shoemaker, 2011; Matson, Sipes, Horovitz, Worley, Shoemaker, & Kozlowski 2011; van der Schuit et al., 2011a; van der Schuit et al., 2011b). This is especially true for individuals with severe and profound ID, as some of them do not even have verbal skills (Matson, Terlonge, Gonzalez, & Rivet, 2006). However, there is great heterogeneity in communication skills, even among people with more severe ID (van der Meer, Sigafoos, O'Reilly, & Lancioni, 2011). Eye contact, movements of the head or hands may have been affected in individuals with ID (Thomas & Woods, 2003).

There are also individuals with both ASD and ID (Duhan & Patel, 2012; Fombonne, 2003; Rivard, Terroux, Mercier, & Parent-Bousier, 2015). Individuals with ASD, especially

those with ID, have severe imitation deficits, which can significantly affect the development of more advanced social, communication and functional skills (Ingersoll, 2008; Ingersoll, Walton, Carlsen, & Hamlin, 2013; Rogers & Pennington, 1991). Conversational skills deficits constitute a major obstacle in finding and keeping a job for individuals with ASD and ID (Baldwin, Costley, & Warren, 2014; Burt, Fuller, & Lewis, 1991; Chiang, Cheung, Li, & Tsai, 2013; Hagner & Cooney 2005; Patterson & Rafferty, 2001; Sperry & Mesibov, 2005). Also, a recent comparative study by Del Cole et al. (2017) in three groups of individuals with developmental disabilities and ASD showed that the subjects with Williams-Beuren syndrome had better communication and social skills compared to subjects with Down syndrome and ASD. However, subjects with Down syndrome exhibited better social skills compared to subjects with ASD.

1.6 Teaching Conversational Skills in a Group

The literature review shows that a large number of studies have focused on the conversational skills deficits of individuals with ID, and ASD with ID, and on teaching conversational skills to these individuals. An important parameter worth mentioning is that some of the studies on teaching conversational skills have focused on group training. Teaching conversational skills in small groups simulates the natural conditions of discussion, and it is expected that it will be effective and that the skills will easily be generalized. Studies by Bradlyn et al. (1983), Dotson, Leaf, Sheldon and Sherman (2010), Haring, Roger, Lee, Breen and Gaylord-Ross (1986), Krantz and McClannahan (1993), Kleitsch, Whitman and Santos (1983), Lappa, Kyparissos and Paraskevopoulos (2011), and Wildman, Wildman and Kelly (1986) have shown that when individuals with ID and ASD participate in group training programs for social skills, they can improve their conversational skills and even manage to generalize them in different environments. Group training that focuses on specific discussion and content elements, such as appropriate personal references, questions, approvals, reinforcement and expressions of high interest, has positive results for all individuals with disabilities, even chronic psychiatric patients (Holmes, Hansen, & St. Lawrence, 1984; Kelly, Urey, & Patterson, 1980).

2. Aims and Research Questions

The aim of this study was to teach conversational skills to a group of seven adults with developmental disabilities (ID, and ASD with ID). The first researcher employed images, questions and answers, systematic feedback and reinforcement. In particular, participants had to be trained in a group of seven to ask questions and respond to their peers about the growth stages of wheat, how it is cultivated, the processes involved, from tillage to threshing, its products as well as, how bread, a staple human food, is made and used.

Consequently, the research question that this study attempted to answer was the following:

1) Is it possible for individuals with developmental disabilities to be educated in a group and acquire conversational skills?

3. Method

3.1 Participants

Seven adults 37 to 65 years of age with ID and ASD with ID from a residential facility participated in this study. All participants have limited expressive language and there is no available Greek-standardized test of expressive language ability we could use, thus we could only indirectly evaluate their linguistic ability via Verbal Scales of the Wechsler Intelligence Scales (WISC III). Participants were evaluated before the intervention on their mental capacity with the Wechsler Intelligence Scales for Children (WISC III).

Table 1: The age and the mental scores of each adult

Names	Age	Diagnosis	WISC-III
Giorgos	47	Moderate Intellectual Disability	53
Marina	61	Severe Intellectual Disability	34
Sotiris	65	Severe Intellectual Disability	30
Victoria	37	Autism spectrum disorder and severe Intellectual Disability.	37
Barbara	45	Mild Intellectual Disability/Down syndrome	53
Ioulia	37	Severe Intellectual Disability/ Down Syndrome	35
Antonis	27	Severe Intellectual Disability/Down Syndrome	34

3.2 Ethical Considerations

The first author requested the permission of the director/president of the residential facility to conduct this study. Furthermore, the names of the participants have been changed to conceal their identity.

3.3 Setting and Materials

All experimental sessions took place where the participants resided at a facility located at the outskirts of a coastal town in central Greece. A quiet room was allocated for the whole duration of this intervention containing a table so arranged with seven chairs for the participants. A video camera on a tripod positioned in one of the corners of the room facing the group of participants sitting around the table recorded the proceedings. On the table lay the educational material, of the wheat cycle consisting of twelve images. Each image corresponded to a question and its answer.

3.4 Functional Definitions

The exchanges were defined as:

- Contextual questions with help when the participant's expression was relevant to the subject, but with the necessary researcher's helps in order to complete the idea.

- Contextual questions without help when the participant's expression was relevant to the subject and did not need the help of the researcher to complete the answer.
- Contextual answers with help when the participant's expression was relevant but needed the researcher's help to complete the answer.
- Contextual answers without help when the participant's expression was relevant to the subject and did not need the help of the researcher to complete it.

Elements were recognized when each participant asked the question to the person sitting opposite them and the latter responded. That person then asked the same question, to be answered by the one who had originally asked the question. The questions and answers were made with the help of the twelve images.

3.5 Procedure

The participants entered the room and sat around the table on which the pictures were laid out, one behind the other. The camera began to record and the first researcher gave the prompt "Let's talk about the life cycle of wheat". Sessions during the training stage lasted about 40 minutes. During sessions the first researcher provided each participant with the model questions. Each participant asked a question to the participant who sat opposite him or her, and responded when the person sitting opposite asked the same question. The sessions were over when each of the participants had asked and answered all the questions about the life cycle of wheat to their interlocutors. The data collection lasted two months.

3.6 Experimental Conditions

A. During the three baselines there were twelve numbered pictures available about the life cycle of wheat, laid out one behind the other. It was explained to the participants that they were going to discuss about the life cycle of wheat. No previous training had been provided on how to ask questions. The answers had been practiced in a previous intervention. No help or reinforcing consequence of any kind was provided at this stage in connection with the target-behavior. When it was established that the participants were performing consistently, the intervention/training began.

B. During the training (five sessions) the researcher provided the model questions, showing the relevant picture. The picture helped the participants learn the question and remember the answer they should give. The first researcher at first provided the model question, but later on did not. However, when a participant found it difficult to ask the question, the first researcher helped them by immediately providing feedback and asking the correct question. All participants asked a question to the person sitting opposite them and responded when the person opposite them asked the same question. The aim was to train the participants in conversation as a social skill and to converse in a circular layout/in a group about the life cycle of wheat.

The questions taught during the first session were in the following order:

Table 2: The questions taught during the first session

	Questions	Answers
1	What do you see in the picture?	Wheat seeds.
2	Where do we plant wheat seeds?	In the field.
3	Why do we water the field?	For the wheat to grow.
4	What color is the wheat in the beginning and later on?	In the beginning it's green and then it becomes a golden-yellow color.
5	When the wheat becomes golden-yellow what do farmers do?	They harvest it.
6	After the harvest, what do farmers do with the wheat?	They take it to the mill to grind it.
7	After milling, what form does the wheat take?	It becomes flour.
8	What do we do with the flour?	We knead it to make bread, communion bread, biscuits…
9	Where do we put the bread to bake it?	In the oven.
10	What do we do with the bread afterwards?	We take it to the bakery to sell it and for people to buy it.
11	Where do we take communion bread?	To church.
12	What does the priest do with the communion bread?	He gives it to us during Holy Communion.

Note: The answers are also given, for the dialogue to be complete.

C. During the return to the baseline (three sessions) the participants were again instructed to discuss the life cycle of wheat. When the performance of the participants became consistent in the training condition, the first researcher withdrew the feedback and the reinforcement in connection with the desired behavior, in order to establish the effect of the training. The conditions of this experimental process were identical to those of the baseline condition.

A **probe** followed, during which the participants were asked to discuss the life cycle of wheat without having the pictures in front of them. Only the first picture was used, as a starting point for the discussion.

During the training, verbal praise was given to the participants for their correct answers. During all the conditions of the intervention (baseline, training, return to the baseline and probe) a biscuit was given to each participant as a reward for their proper participation. During the return to the baseline and the probe, there were no verbal models, corrections or verbal praises available.

3.7 Experimental Design

A quasi-experimental baseline design was implemented which involved teaching using questions and images, return to the baseline (ABA) and probe by withdrawing the initial training tools (images) on seven subjects was used to ascertain and assess the acquisition of new knowledge following their training. Typically, such experiments in individual cases extend into three - four phases to provide greater assurance about the role of intervention in behavioral change. The design baseline-training-return to baseline shows

the relationship between performance and training. The purpose of these interventions is to achieve a lasting change after the end of training (Kazdin, 2011). The first researcher, after evaluating behavior in the baseline condition, introduced the independent variable and then withdrew it, returning to baseline conditions.

3.8 Independent and Dependent Variables

The independent variables in the present study are the verbal example of the first researcher, the corrections, the images, the verbal praise and the final reward for good participation (reinforcement system). The dependent variable was the number of answers (contextual questions without help, contextual questions with help, contextual answers without help, and contextual answers with help) from each participant per session. Any questions and answers (words, phrases or sentences) that were audibly comprehended were calculated as questions and answers. The data was collected and ranked separately for each participant.

3.9 Inter-Observer Agreement (IOA)

All the sessions were recorded on video and scored by two researchers (the experimenter and an observer). The agreed rating made by the two researchers was scored for each response (point-by-point) and calculated as a cumulative grade minus the number of disagreements by dividing it with the number of responses. All the sessions were scored since the mean agreed assessment of the two researchers was 93%.

4. Results

The intervention data are presented per participant. On the X axis the consecutive sessions are shown and on the Y axis the number of exchanges (questions and answers) of each participant. Vertical lines represent changes in conditions in the order of baseline, training, return to baseline and probe.

The black triangle represents the contextual answers with help. The white triangle represents the contextual answers without help. The black circle represents the contextual questions with help, while the white circle addresses the contextual questions without help.

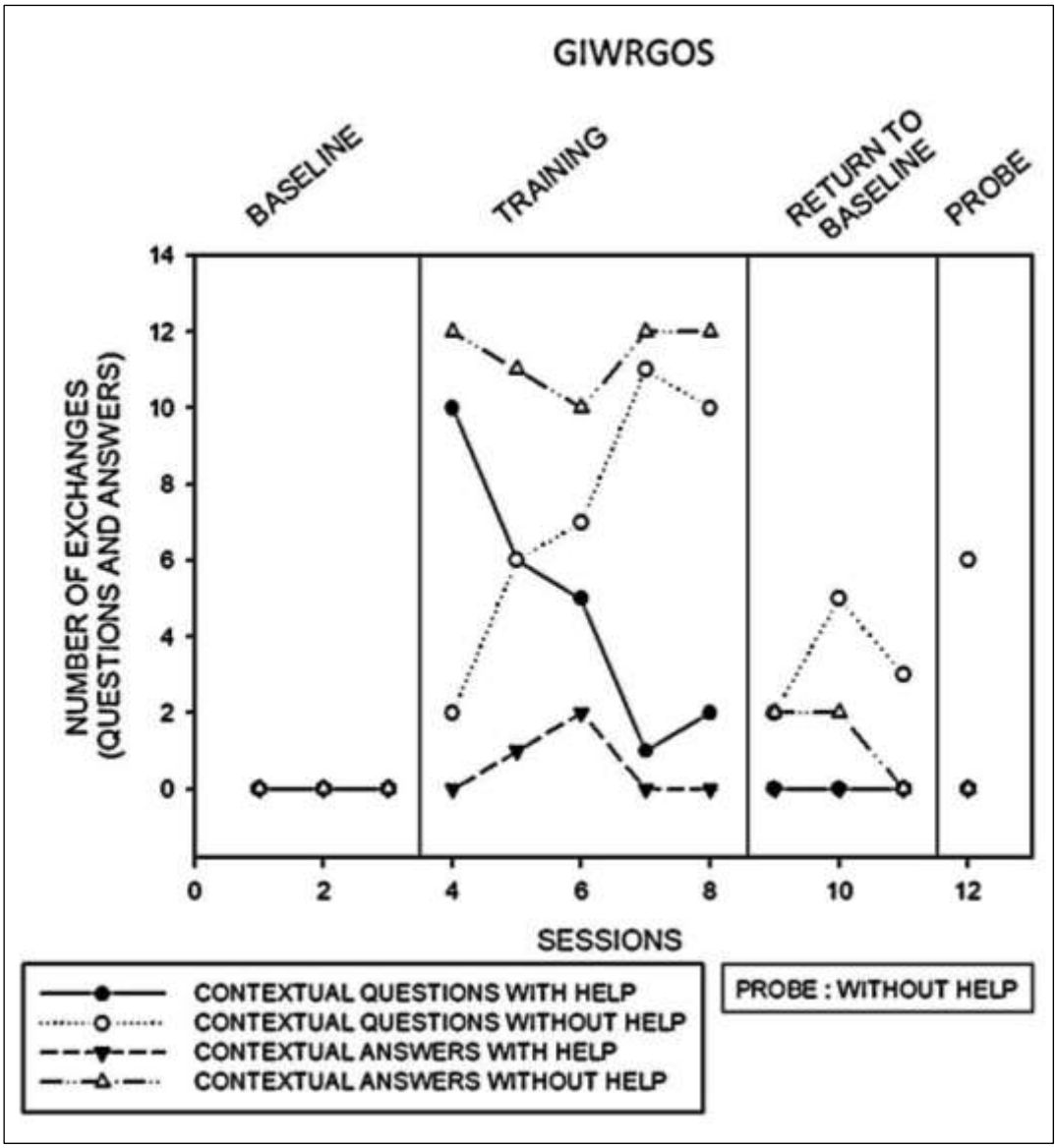

Figure 1: The number of exchanges (questions and answers) per session by Giorgos

Figure 1 presents the exchanges (questions and answers) of Giorgos. In the duration of the three baseline conditions, Giorgos does not ask any questions and gives no answer. During the training sessions, Giorgos raises the contextual questions without help from 2 to 11 and reduces them with help respectively. His contextual answers ranged from 10 to 12. During the return to the baseline, Giorgos manages to make 5 contextual questions without help and give 2 contextual answers without help. In the probe, he poses 6 contextual questions without help.

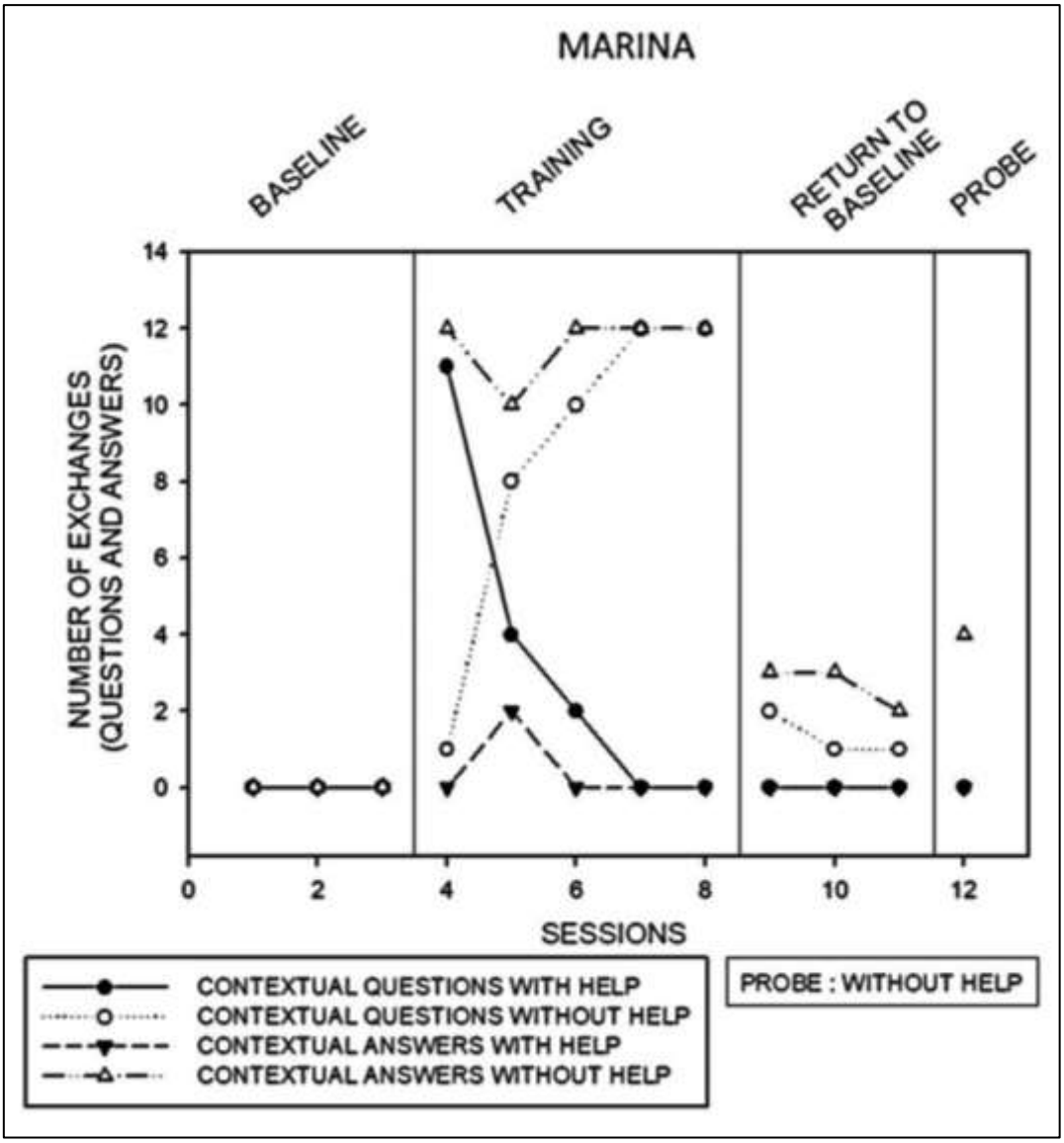

Figure 2: The number of exchanges (questions and answers) per session by Marina

Figure 2 presents the exchanges (questions and answers) of Marina. During the process of the three baseline conditions, Marina does not ask any questions nor gives any answer. During the training sessions, Marina makes 11 contextual questions with help, which she gradually reduces and manages to slowly increase them without help (1-12), while her contextual answers without help are always high (10-12). During the return to the baseline process, Marina poses 2 contextual questions without help and gives 2 contextual answers without help. Finally, she manages four questions in the follow-up probe.

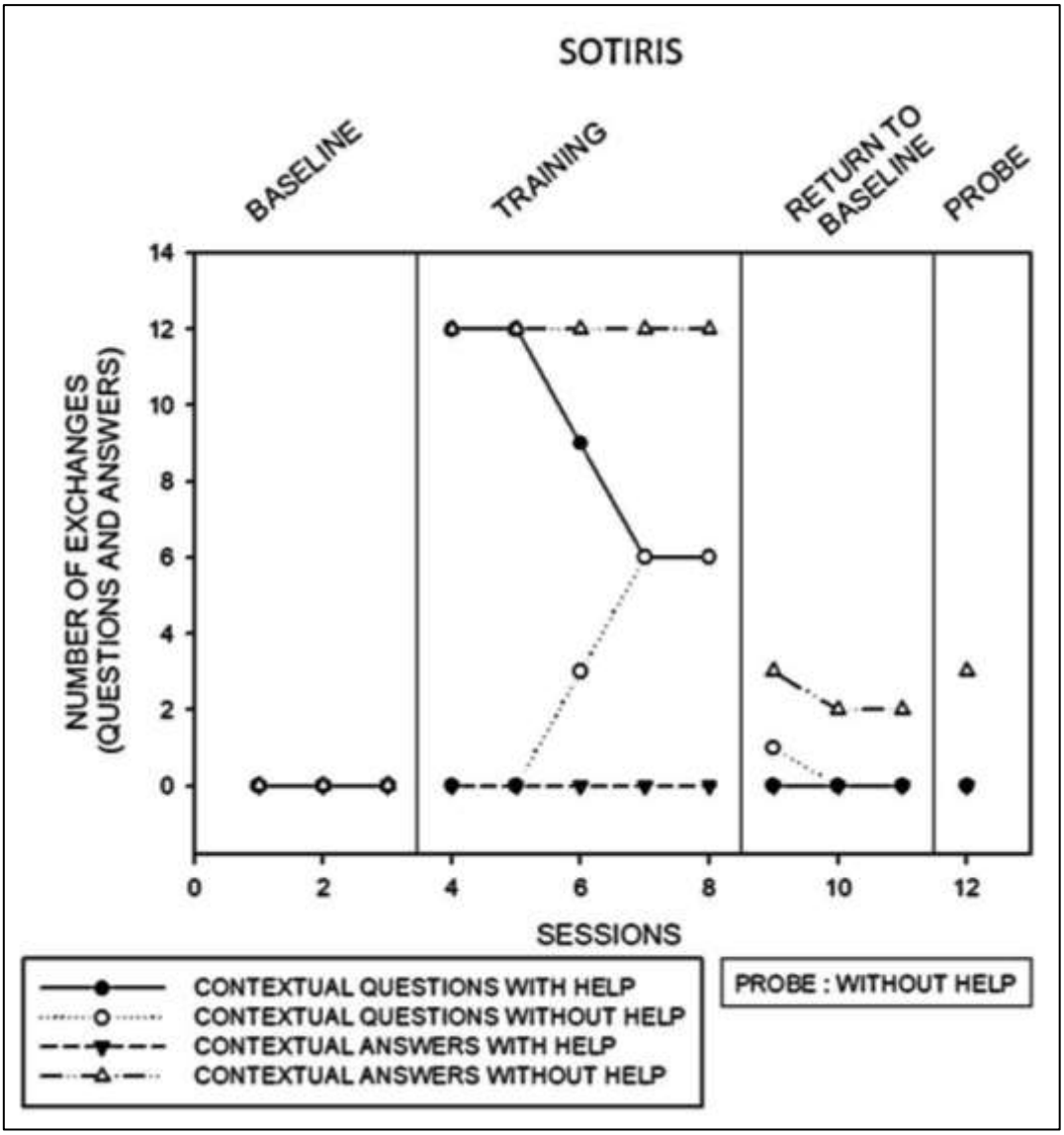

Figure 3: The number of exchanges (questions and answers) per session by Sotiris

Figure 3 presents the exchanges (questions and answers) by Sotiris. During the three baseline conditions, Sotiris does not ask any questions and does not give any answer. During the training sessions, Sotiris raises the contextual questions without help to 6 and reduces them with help respectively. The contextual answers are always 12. During the return to the baseline, Sotiris manages to ask 1 contextual question without help and give 2 and 3 answers without help. In the probe, he does not ask any questions to his interlocutors, but he does give 3 contextual answers to questions he is asked.

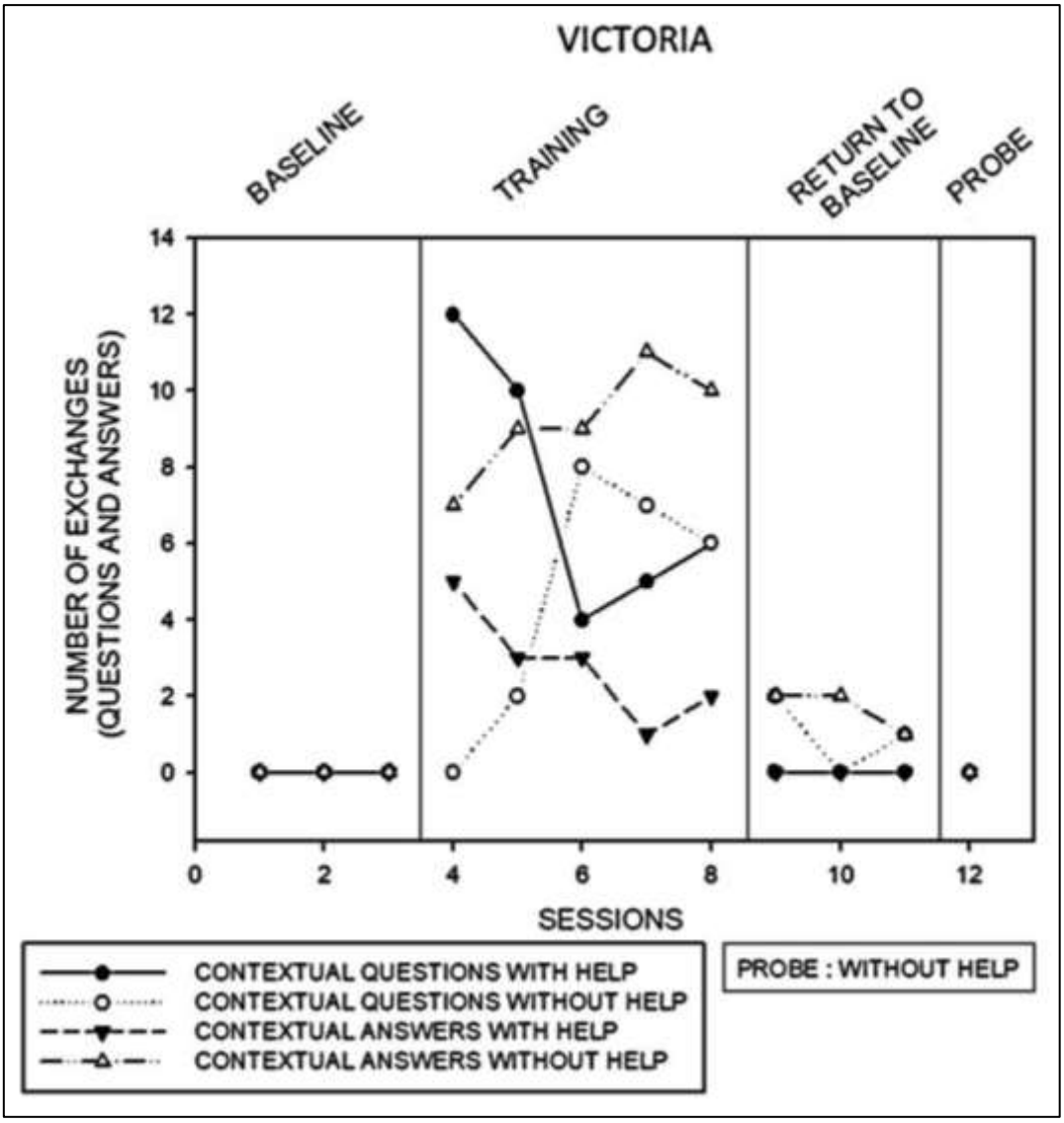

Figure 4: The number of exchanges (questions and answers) per session by Victoria

Figure 4 shows the exchanges (questions and answers) of Victoria. During the three baseline conditions, Victoria does not ask any questions and gives no answer. In Victoria's training sessions, she is able to make 8 of her contextual questions without help and reduces the corresponding ones with help. At the same time, she raises the contextual answers without help from 7 to 11. During the return to the baseline, Victoria makes an average of 2 contextual questions and gives 2 contextual answers without help. During the probe, she did not participate in the conversations at all.

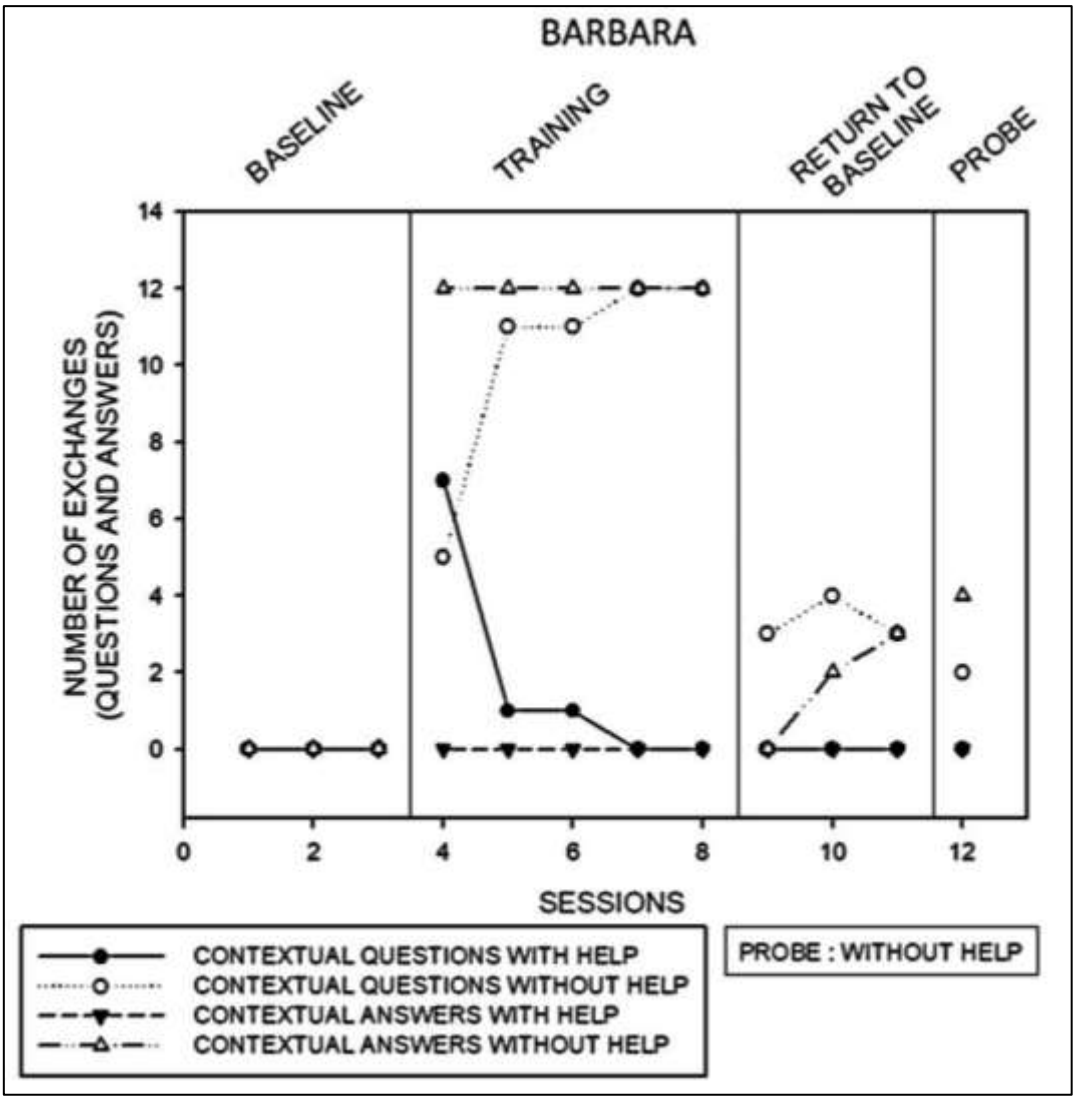

Figure 5: The number of exchanges (questions and answers) per session by Barbara

Figure 5 shows Barbara's exchanges (questions and answers). During the three baseline conditions, Barbara does not ask any questions and gives no answers. During her first training session, Barbara asks 7 contextual questions with help, and 5 contextual questions without help, which she raises during her next training to 11 and 12 and reduces them with help. Under the return to the baseline condition, Barbara asks an average of 4 contextual questions without help to the team and gives 3 contextual answers without help. During the probe, she manages to ask 2 contextual questions without help, and to give 4 contextual answers, even though the pictures are not used.

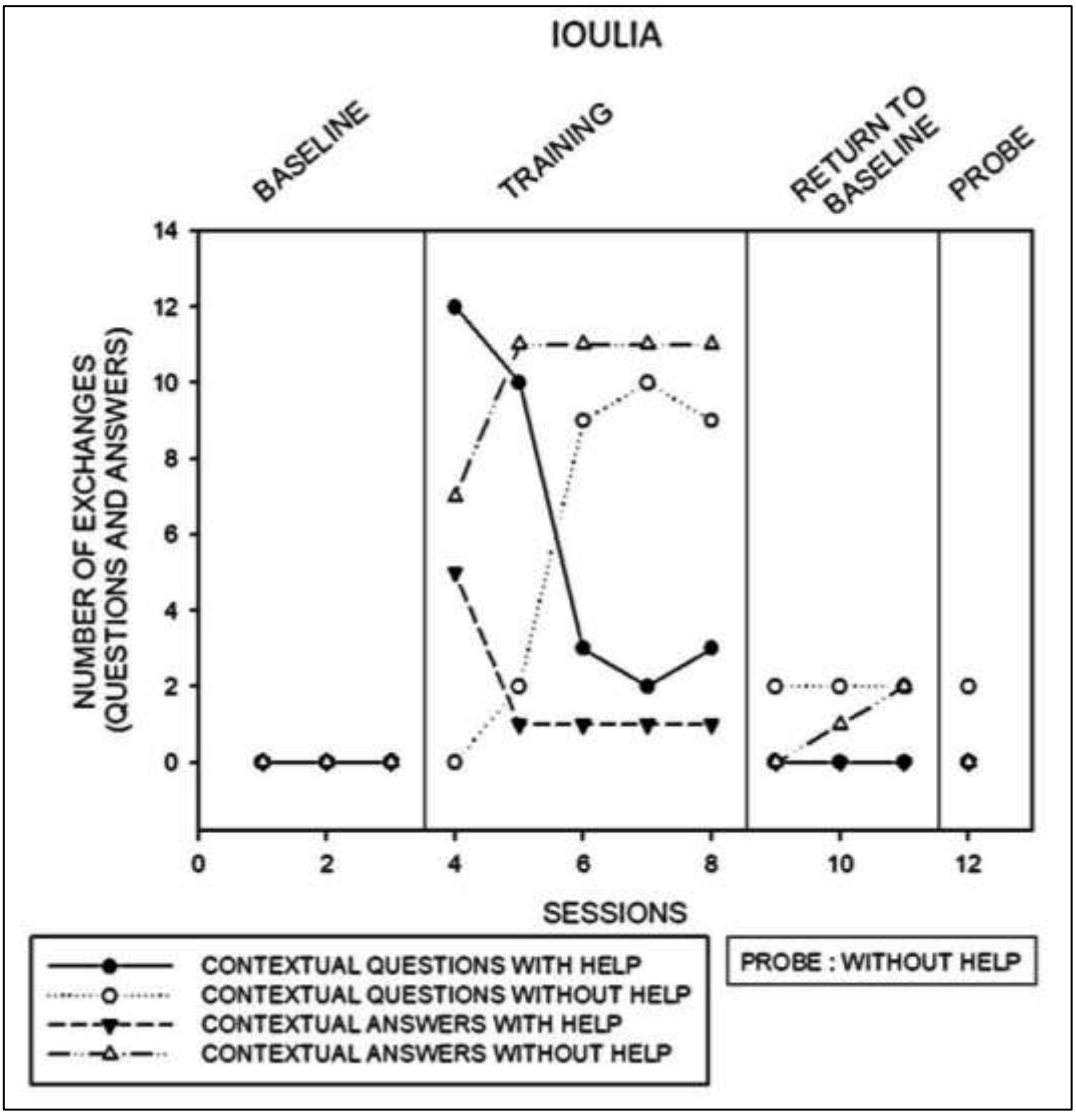

Figure 6: The number of exchanges (questions and answers) per session by Ioulia

Figure 6 shows Julia's exchanges (questions and answers). During the three baseline conditions, Julia asks no questions and no answers. During her first training session, Julia asks 12 contextual questions with help, which are then reduced and replaced with contextual questions without help. By the end of the training sessions Julia has recorded 9 and 10 contextual questions without help. The contextual answers without help are always high (7-11). During the return to the Baseline condition, Julia asks the team an average of 2 contextual questions without help and gives contextual answers without help. The same level holds in the probe when the image is removed.

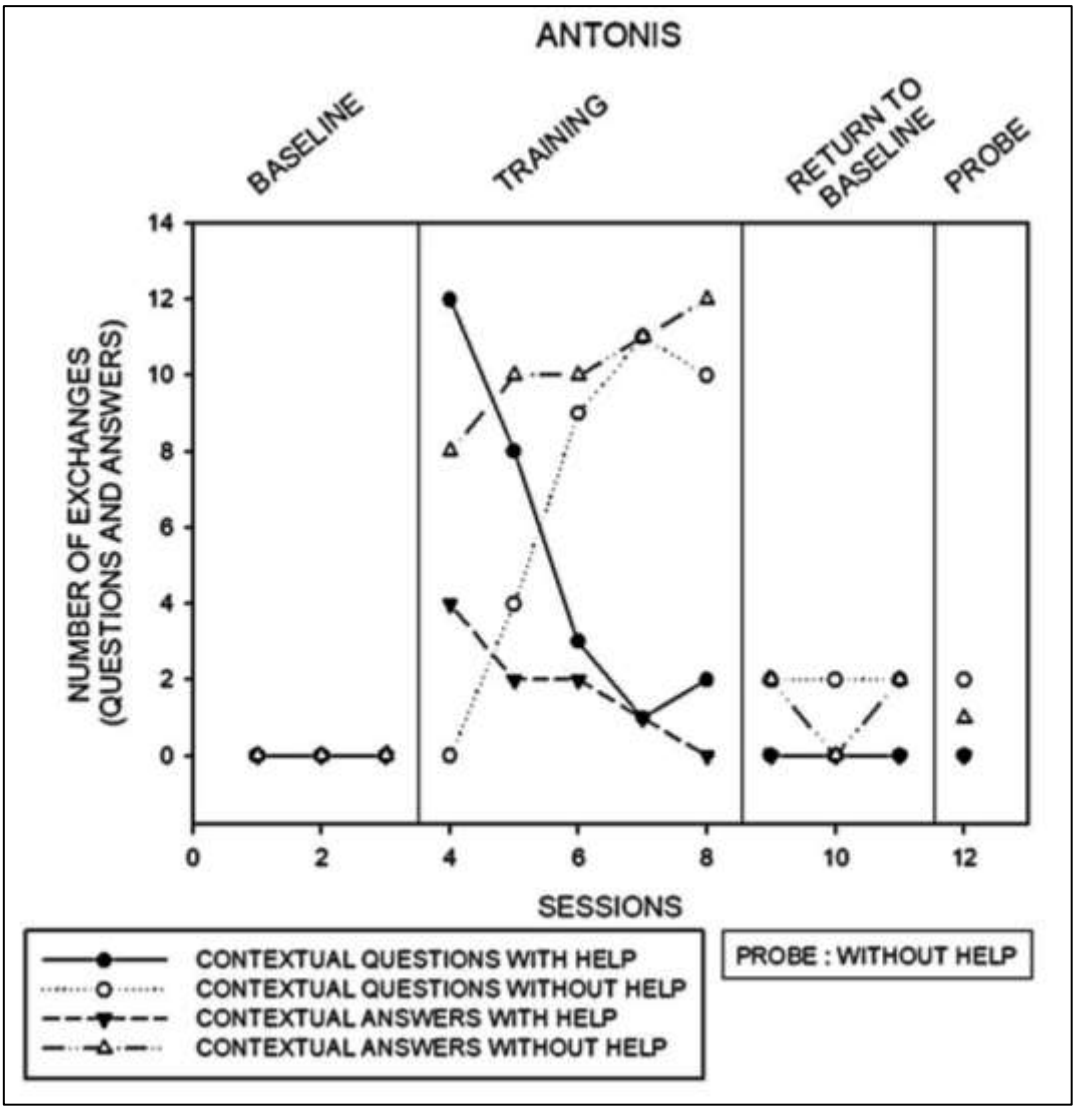

Figure 7: The number of exchanges (questions and answers) per session by Antonis

Figure 7 shows Antonis' exchanges (questions and answers). During the three baseline condition, Antonis asks no questions and gives no answers. During his first training session, Antonis asked 12 contextual questions with help that were slowly reduced and the questions were asked without help. By the end of the training sessions Antonis asks 11 and 10 contextual questions without help. On the other hand, contextual answers without help range from 8 to 12. During the return to baseline condition, Antonis asks an average of 2 contextual questions without help and gives 2 contextual answers without help to the team. He manages to maintain the same level even when the image is removed.

5. Social Validity Measures

For the credibility of the results and the validity of the method, a group of teachers was asked to evaluate the intervention, since a social verification is a necessary component of

social skills assessment, according to Storey (1992). The group consisted of five special education teachers who responded to the call. They watched an initial session (baseline) and a final session (return to baseline). They did not know which session preceded and which followed and could not guess. The instructions given to them were to observe two intervention sessions in random order, and they were asked to evaluate in which one (the before or the after the training sessions) the participants had a better performance and appraise the level of improvement. The overall conclusion, as assessed by the group of teachers, was that the participants showed modest and satisfactory performance.

6. Discussion

The aim of the present study was to teach seven adults with developmental disabilities (ID, and ASD with ID) to engage in a conversation by training them and affording them the ability to discuss images and provide systematic feedback. The participants learned to ask questions to their interlocutor and answer their questions about the growth stages of wheat, how it is cultivated, the processes involved, from tillage to threshing, its products as well as, how bread, a staple human food, is made and used. The "wheat cycle" was chosen as a topic to be discussed, since according to Doggett, Krasno, Koegel and Koegel (2013) exchanges (question-answer) can be a discussion or exchange of ideas on a common theme.

Communication is very important for people with developmental disabilities, as it allows them to express their needs and desires (Lappa & Mantzikos, 2019; Schlosser & Sigafoos, 2006) and to interact with other people in their social environment. Without the ability to communicate, these individuals lose opportunities to interact with their peers, they cannot express their needs and desires, and struggle to build and maintain interpersonal relationships (Duffy & Healy, 2011). Learning appropriate conversational skills can be an important first step in creating a friendship (Dotson et al., 2010). The study of Hughes, Golas, Cosgriff, Brigham, Edwards and Cashen (2011), which was a copy of Hughes, Rung, Wehmeyer, Agran, Copeland and Hwang (2000), showed that students with limited communication skills and ID of whom two had ASD, were trained by general education teachers to communicate and by talking to increase their conversational skills with various peers of typical development. Speech education and teaching of social and interpersonal skills to pupils with ID and ASD are the most important objectives of special education (Imray & Hinchliff, 2014).

This research demonstrates that people with developmental disabilities can be trained to attain the ability to converse. All participants after the training asked more questions and gave more answers than they had during the baseline conditions. In addition, they were able to discuss with each other on the subject on which they had been trained even when the original training components were removed (i.e. the pictures). It turns out, therefore, that the role of education in individuals with developmental disabilities is catalytic. A limitation of this study is, of course, that generalization of the

newly acquired skills by the participants has not been attempted. This was due to the fact that the original research objective was to investigate whether individuals with developmental disabilities could be trained in a team and develop a sort of discourse that would resemble "natural" dialogue.

Therefore, group teaching was chosen, since teaching small group conversations is similar to normal conversational conditions and is expected to be effective and easily generalized. A few studies have shown that individuals with developmental disabilities can acquire the ability to converse after group training (Barry et al., 2003; Dotson et al., 2010; Krantz & McClannahan, 1993; Kroeger, Schultz, & Newsom, 2007; Lappa et al., 2011; Wildman et al., 1986; Williams, 1989). Group teaching on conversation skills can offer a number of advantages over individual teaching. In particular, there is greater effectiveness as the instructions are given to many students at the same time (Hazel, Schumaker, Sherman, & Sheldon-Wildgen, 1982; Hazel, Schumaker, Sherman, & Sheldon, 1982); more opportunities for observation are given (Charlop, Schreibman, & Tryon, 1983; Ledford, Gast, Luscre, & Ayres, 2008), the process is more akin to a social environment and it is easier to achieve the generalization of learning skills. According to Wittenbaum and Bowman (2004), members of a group experience common empowerment, i.e. appreciate more positively the abilities of others in the activity when discussing shared information.

Communication literacy training and conversational skills have proven to be effective in developing/strengthening socialization and reducing antisocial attitudes in a wide range of populations from preschool children with problematic behaviors to children with ID, psychiatric problems and ASD, including communication difficulties that may increase the likelihood of other difficulties in individuals with ID, such as provocative behaviors (i.e., aggression and self-injurious behavior) (Matson, Kozlowski, Worley, Shoemaker, Sipes, & Horovitz, 2011; Paclawskyj, Matson, Rush, Smalls, & Vollmer, 2000; Ringdahl, Call, Mews, Boelter, & Christensen, 2008).

Children with ID can acquire basic utilitarian language skills, but the capacity of the finer elements of conversation do not appear in them as often as in the normal population (Pruthi, 1988). For this reason, the teaching of questions has proven to be one of the simplest, but effective ways to involve a person in a discussion (Ingvarsson, Tiger, Hanley, & Stephenson, 2007). Research such as those carried out by Davis, Boon, Cihak and Fore (2010) and Lappa et al. (2011) demonstrate that teaching them to ask questions and respond to them is feasible for individuals with developmental disabilities. At the same time, there is an improvement in eye contact (Lappa, Kyparissos, Nisiotou, & Paraskevopoulos, 2013). Flores, Schweck and Hinton (2016) also taught language skills to children with developmental disabilities and ASD using the "Language for Learning" method. Thus, it is clear that teaching conversational skills is a first step towards increasing social interaction among students with ID, and autism with their peers (e.g., Alwell & Cobb, 2009).

It is noteworthy, however, that as the level of disability increases, the level of social skills functionality decreases, which prevents people with ID to live and associate comfortably in the community (Umadevi & Sukumaran, 2012), at home and at school (Lerner, Lerner, Almerigi, Theokas, Phelps, Gestsdottir, & von Eye, 2005; Lerner, von Eye, Lerner, Lewin-Bizan, & Bowers, 2011). Researchers assume that the difficulties in social participation experienced by pupils with special educational needs are mainly due to a lack of social skills (Avramidis, 2013; Pijl, Meijer, & Hegarty, 1997; Schwab, Gebhardt, Krammer, & Gasteiger-Klicpera, 2015).

However, although these individuals have weaknesses in social skills such as peer-to-peer negotiation, conflict resolution, and social relation assessment, they can create social relationships - but to a lesser extent than their peers - (Aggelaki, 2013), to teach useful interpersonal skills, sometimes to help consolidate their skills (Singh & Winton, 1983), as well as to teach conversational skills in order to enable them to socialize (Lappa et al., 2011). It is a fact that the learning of social, practical and professional skills as well as the promotion of communication skills is necessary during the period of adulthood, as they contribute to maintaining the employment of young adults with ID (Carr, O'Reilly, Noonan-Walsh, & McEvoy, 2007). In short, because the existence of social skills and conversational skills leads to reduced rejection, to the development of friendly relationships and, consequently, the acceptance of individuals with ID by their peers (Lappa et al., 2011) or the wider social groups (Papoutsaki, 2009), it is important that the teaching of social skills be included in the curriculum of the schools (Luftig, 1988).

In conclusion, inclusion in the community is, therefore, a powerful determinant of the quality of life of individuals with developmental disabilities, and therefore social and conversational skills must be developed and implemented to enhance the autonomy of these individuals over their lives (Kelly, 2000; Sigafoos, O'Reilly, & Green, 2007). It is important to mention that only seven individuals with developmental disabilities (ID and ASD with ID) participated in this study. Future studies may use a more representative sample and explore additional factors (i.e., gender, intellectual age/intelligence quotient, previous "experience", and environment) in order for the results to be more representative (Lappa & Mantzikos, 2019).

Conflict of interest

No potential conflict of interest was reported by the authors.

Acknowledgements

The authors gratefully acknowledge Mr. George Egglezos, for his contribution to this study.

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